

AMENDMENTS TO THE CLAIMS

1. (currently amended) A An isolated gene encoding:

(a) a protein having the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing; or

(b) a protein having at least 80% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids with one or more amino acid deletions, substitutions, additions or insertions and also binding to an antibody or its or an antibody fragment that is active to induce granulocyte colony-stimulating factor; or

~~(c) a protein having at least 50% homology with the SEQ ID NO:2 and also binding to an antibody or its or fragment that is active to induce granulocyte colony-stimulating factor.~~

2. (currently amended) A An isolated gene having:

(a) the nucleotide sequence listed as SEQ ID NO:1 of the Sequence Listing;

(b) a nucleotide sequence which is the nucleotide sequence listed as SEQ ID NO:1 of the Sequence listing with one or more nucleotide deletions, substitutions, additions or insertions and which encodes a protein having at least 80% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids and that can bind to an antibody or its or an antibody fragment this is active to induce granulocyte colony-stimulating factor; or

(c) a nucleotide sequence which hybridizes with DNA having the nucleotide sequence listed as SEQ ID NO:1 of the Sequence Listing under stringent conditions of 6X SSC, 5X Denhardt's solution, 0.5% SDS, 25-68°C or 0-50% formamide, 6X SSC, 0.5% SDS, 25-68°C and which encodes a protein that can bind to an antibody or its or an antibody fragment that is active to induce granulocyte colony-stimulating factor.

3-4. (Cancelled)

5. (Currently Amended) A gene according to claim 1 or 2 any one of claims 1 to 4, wherein the antibody that is active to induce granulocyte colony-stimulating factor is the monoclonal antibody produced by a hybridoma of the cell line deposited as FERM BP-6103.

6. (Currently Amended) A gene according to claim 1, which is a
~~mouse-derived or human derived~~ mouse gene.

7-8. (Cancelled)

9. (Currently Amended) Any of the following purified proteins:

(a) a protein having the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing;

(b) a protein having at least 80% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids with one or more amino acid deletions, substitutions, additions or insertions and also binding to an antibody or its or an antibody fragment that is active to induce granulocyte colony-stimulating factor; or

(c) a protein having at least 50% homology with the amino acid sequence listed as SEQ ID NO:2 and also binding to an antibody or its fragment that is active to induce granulocyte colony-stimulating factor; or

(d) (c) a protein that is encoded by the DNA which hybridizes with DNA having the nucleotide sequence listed as SEQ ID NO:1 of the Sequence Listing under stringent conditions of 6X SSC, 5X Denhardt's solution, 0.5% SDS, 25-68°C or 0-50% formamide, 6X SSC, 0.5% SDS, 25-68°C and that binds to an antibody or its an antibody

fragment that is active to induce granulocyte colony-stimulating factor.

10. (cancelled)

11. (currently amended) A purified protein according to claim 9 ~~or 10~~, wherein the antibody that is active to induce granulocyte colony-stimulating factor is the monoclonal antibody produced by a hybridoma of the cell line deposited as FERM BP-6103.

12. (currently amended) A purified protein according to claim 9, which is a mouse protein ~~mouse derived, human derived or other mammalian derived protein~~.

13-17. (cancelled)

18. (previously presented) A recombinant vector containing a gene or DNA fragment according to claim 1.

19. (currently amended) A transformed cell ~~transformant~~ comprising a recombinant vector that contains the gene or the DNA fragment according to claim 1.

20. (currently amended) A An isolated receptor for a substance that can induce production of granulocyte colony-stimulating factor including, such as a monoclonal antibody or ~~its~~ an antibody fragment that is produced by a hybridoma of the cell line deposited as FERM BP-6103, and the receptor comprises a protein according to claim 9 and is present in a cell which can produce granulocyte colony-stimulating factor, ~~such as macrophage.~~

21. (currently amended) A screening method for any of the following substance (a)-(c), which comprises:, ~~the method includes measurement~~

(i) measuring ~~of~~ binding between a potential substance and a protein according to claim 9 or a receptor according to claim 20,

(ii) measuring effects ~~measurement of the effect of the~~ potential substance via a receptor according to claim 20, or

(iii) comparing ~~measurement to compare the effect between the structure of a~~ the potential substance and the structure of a protein according to claim 9; the invention [.]

(a) a substance which can bind to a receptor that can induce production of granulocyte colony-stimulating factor, wherein the substance, ~~according to claim 20, and as a result of its binding to a~~ the receptor, is capable of causing it can cause a change in the receptor structure, transmitting transmit signals into the cell via

the receptor, and thus inducing induce production of granulocyte colony-stimulation factor;

(b) a substance which can bind to a receptor that can induce production of granulocyte colony-stimulating factor, wherein the substance, according to claim 20, and as a result of its binding to the receptor, ~~it~~ the substance can inhibit the binding of the receptor to another substance ~~the substances~~ that can induce production of granulocyte colony-stimulating factor, and wherein the substance ~~but it in itself does not induce production of granulocyte colony-stimulation factor; or~~

(c) a substance which can bind to a receptor that can induce production of granulocyte colony-stimulating factor, wherein said substance, according to claim 20, and as a result of its binding to a the receptor, ~~it~~ can inhibit the binding of the receptor to another substance ~~the substances~~ that can induce production of granulocyte colony-stimulating factor, and wherein the substance ~~but it in itself blocks production of granulocyte colony-stimulating factor.~~

22-23. (cancelled)

24. (currently amended) A pharmaceutical composition comprising a gene or DNA fragment according to claim 1, a protein

according to claim 9, ~~an antibody or its fragment according to~~
~~claim 15, or~~ a receptor according to claim 20 ~~or a substance~~
~~according to claim 23.~~

25-28. (cancelled)

Please add the following new claims 29-33.

29. (new) The receptor of claim 20, wherein the cell which can produce granulocyte colony-stimulating factor is a macrophage.

30. (new) The isolated gene of claim 1 which encodes a protein having at least 90% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids.

31. (new) The isolated gene of claim 1 which encodes a protein having at least 95% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids.

32. (new) The purified protein of claim 9 which has at least 90% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids.

33. (new) The purified protein of claim 9 which has at least 95% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids.